1890 1990 KARGER

Vol. 58, 1990

Biology of the Neonate

Foetal and Neonatal Research

Founded 1959 as 'Biologia Neonatorum' by A. Minkowski
(formerly 'Etudes Néo-Natales')

Editor-in-Chief
J.P. Relier, Paris

Founder and Editor
A. Minkowski, Paris

Associate Editors
F.C. Battaglia, Denver, Colo.
G. Duc, Zürich
J. Girard, Meudon-Bellevue
J.B. Warshaw, New Haven, Conn.

Editorial Board
W.F. Balistreri, Cincinnati, Ohio
E. Bancalari, Miami, Fla.
R. Boyd, Manchester
F. Broughton-Pipkin, Nottingham
W.J. Cashore, Providence, R.I.
P. Czernichow, Paris
E.E. Delvin, Montréal
M.G. Forest, Lyon
C. Gaultier, Paris
J.P. Guignard, Lausanne
P. Hahn, Vancouver
M. Hamon, Paris
M. Hamosh, Washington, D.C.
S.J. Henning, Houston, Tex.
E. Herrera, Madrid
A. Jobe, Torrance, Calif.
N. Kobayashi, Tokyo
O. Koldovský, Tucson, Ariz.
H. Lagercrantz, Stockholm
J.C. Larroche, Paris
L. Reshef, Jerusalem
M.P. Richards, Beltsville, Md.
G. Rondini, Pavia
C. Roy, Montréal
F. Rubaltelli, Padova
A. Rudolph, San Francisco, Calif.
J. Senterre, Liège
M. Sperling, Pittsburgh, Pa.
N. Svenningsen, Lund
T. Tanimura, Osakasayama
G. Tchernia, Paris
M. Xanthou, Athens
S.J. Yaffe, Bethesda, Md.

KARGER

S. Karger · Medical and Scientific Publishers
Basel · München · Paris · London · New York · New Delhi · Bangkok · Singapore · Tokyo · Sydney

Drug Dosage

The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.

All rights reserved.

No part of this publication may be translated into other languages, reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, microcopying, or by any information storage and retrieval system, without permission in writing from the publisher or, in the case of photocopying, direct payment of a specified fee to the Copyright Clearance Center (see 'Information for Readers and Subscribers').

© Copyright 1990 by
S. Karger AG, P.O. Box, CH– 4009 Basel (Switzerland)
Printed in Switzerland by Thür AG Offsetdruck, Pratteln

Contents Vol. 58, 1990

No. 1 **Original Papers**

Development of Cholesterol Metabolism: The Effect of Diet Composition at Weaning
Hahn, P.; Srubiski, L. 1

Age-Related Variations in Jejunum and Distal Colon Contractile Response to Thyrotropin-Releasing Hormone in vitro
Heitkemper, M.M.; Bond, E.F. 8

Steroid Hormone May Modulate Hepatic Somatomedin C Production in Newborn Calves
Coxam, V.; Davicco, M.-J.; Durand, D.; Bauchard, D.; Opmeer, F.; Barlet, J.-P. . . . 16

Attempts for Identification of a Chorionic Gonadotrophin-Like Bioactivity in the Rat Placenta Which Stimulates the Testosterone Secretion of the Fetal Testis in vitro
Habert, R.; Picon, R. 24

Auditory Brainstem Response in Hyperbilirubinemic Rat: Part I
Kuriyama, M.; Konishi, Y.; Sudo, M. 32

Transplacental Effect of Lead Compounds on Tissue Plasminogen Activator Activity, Plasminogen Activator Inhibition and Plasmin Inhibition
Smokovitis, A.; Kokolis, N.; Alexaki, E.; Tsafaris, F. 41

Airway Anomalies in Newborn Infants: Detection by Tracheoscopy via Endotracheal Tube
Deres, M.; Kosack, K.; Waldschmidt, J.; Obladen, M. 50

Separation of the Umbilical Cord – Histological Findings
Oudesluys-Murphy, A.M.; den Hollander, J.C. 54

Brief Communication

Effect of Neuromuscular Blockade on Fetal Oxidative Metabolism
Wilkening, R.B.: Boyle, D.W. 57

No. 2 **Original Papers**

Lactate Movements in the Term Human Placenta in situ
Piquard, F.; Schaefer, A.; Dellenbach, P.; Haberey, P. 61

Hyperthyrotropinemia in a Neonate with Normal Thyroid Hormone Levels: The Earliest Diagnostic Clue for Pseudohypoparathyroidism
Yokoro, S.; Matsuo, M.; Ohtsuka, T.; Ohzeki, T. 69

Implantation and in vivo Antagonistic Effects of Antibiotic-Susceptible *Escherichia coli* Strains Administered to Premature Newborns
Rastegar Lari, A.; Gold, F.; Borderon, J.C.; Laugier, J.; Lafont, J.-P. 73

Dependency of Doppler Parameters in the Anterior Cerebral Artery on Behavioural States in Preterm and Term Neonates
Jorch, G.; Huster, T.; Rabe, H. 79
Human Cord Blood Lymphocytes Do Not Simultaneously Express CD4 and CD8 Cell Surface Markers
Reason D.C.; Ebisawa, M.; Saito, H.; Nagakura, T.; Iikura, Y. 87
Effects of Adenosine and Its Analogues on Isolated Internal Carotid Arteries from Newborn and Adult Pigs
Laudignon, N.; Aranda, J.V.; Varma, D.R. 91
Effect of a Popular Chinese Herb on Neonatal Bilirubin Protein Binding
Yeung, C.Y.; Lee, F.T.; Wong, H.N. 98
Intestinal Absorption of Macromolecules and Epithelial Cell Surface Glycosylation in Suckling Rats Nursed on Mothers Fed Low-Protein Diet-I
Babbar, H.S.; Jaswal, V.M.S.; Gupta, R.; Mahmoud, A. 104
Neonatal and Adult Patterns of Lectin Binding to Rat Small Intestinal Microvillus Membranes
Stern, M.; Gellermann, B.; Schall, I. 112

Erratum 120

No. 3 **Original Papers**

Surfactant Replacement in Spontaneously Breathing Babies with Hyaline Membrane Disease – A Pilot Study
Victorin, L.H.; Deverajan, L.V.; Curstedt, T.; Robertson, B. 121
Effects of Maternal Hyperoxygenation on Atrioventricular Velocity Waveforms in Healthy and Growth-Retarded Fetuses
Rizzo, G.; Arduini, D.; Romanini, C.; Mancuso, S. 127
Renal Effects of Caffeine in Preterm Infants
Gillot, I.; Gouyon, J.B.; Guignard, J.P. 133
Simultaneous Estimation of Neonatal Total Body Water by Antipyrine and $H_2{}^{18}O$ Dilution
Brans, Y.W.; Kazzi, N.J.; Andrew, D.S.; Schwartz, C.A.; Carey, K.D. 137
The Ability of Granulocytes to Generate Superoxide Anions and Hypochlorite during Phagocytosis: Comparison of Neonatal Granulocytes with Adult Granulocytes
Nishida, A.; Kimura, H.; Sugioka, K.; Nakano, M. 145
Regulation of Hepatocyte-Specific Gene Expression in Cultures of Human Embryonic Hepatocytes
Roon, M.A. van; Zonneveld, D.; Boer, P.A.J. de; Moorman, A.F.M.; Charles, R.; Lamers, W.H. 152
An Explanation for Ketogenesis by the Intestine of the Suckling Rat: The Presence of an Active Hydroxymethylglutaryl-Coenzyme A Pathway
Békési, A.; Williamson, D.H. 160
Impaired Random Migration and Special Reactivity to Methylprednisolone in Young Guinea Pig Macrophages
Prokić, L.M.; Vilić, I.M. 166
Effects of the Antiglucocorticoid RU 486 on the Initiation of Ultrastructural Type-II Cell Differentiation in Fetal Rat Lung
Guettari, N.; Dufour, M.-E.; Marin, L. 173

No. 4 **Original Papers**

Cardiac and Respiratory Responses to Esophageal Dilatation during REM Sleep in Human Infants
Ramet, J.; Praud, J.-P.; d'Allest, A.-M.; Dehan, M.; Guilleminault, C.; Gaultier, C. . 181

Hypersomatotropism in the Dysmature Infant at Term and Preterm Birth
de Zegher, F.; Kimpen, J.; Raus, J.; Vanderschueren-Lodeweyckx, M. 188

Effect of Sympathetic Nervous System on Cerebral Blood Flow in the Newborn Piglet
Monin, P.; Feillet, F.; Hascoet, J.-M.; Vert, P. 192

Effect of Acetazolamide on Cerebral Blood Flow Velocity and CO_2 Elimination in Normotensive and Hypotensive Newborn Piglets
Thoresen, M.; Whitelaw, A. 200

Regional Circulatory Responses to Hindlimb Work in Developing Swine
Buckley, N.M.; Frasier, I.D. 208

Plasma Cortisol Distribution in the Pig from Birth to Six Weeks of Age
Kattesh, H.G.; Charles, S.F.; Baumbach, G.A.; Gillespie, B.E. 220

Insulin Receptors in Developing Rat Liver. Receptor Autophosphorylation and Phosphorylation of the Endogenous Substrate pp120/HA4 (ecto-ATPase) in Fetal and Neonatal Liver
Margolis, R.N.; Tanner, K.; Seminara, D.; Taylor, S.I. 227

Umbilical Cord Separation: Histological Findings and Perinatal Factors
Oudesluys-Murphy, A.M.; den Hollander, J.C.; Hop, W.C.J. 236

No. 5 **Original Papers**

Randomized Study of Vancomycin Pharyngeal Instillation as a Prophylaxis of Bronchopulmonary Infection in Intubated Neonates
Marchand, S.; Poisson, D.; Borderon, J.C.; Gold, F.; Chantepie, A.; Saliba, E.; Laugier, J. 241

Occurrence of *Bifidobacterium* in the Feces of Newborns Delivered by Cesarean Section
Bezirtzoglou, E.; Romond, C. 247

Polymorphonuclear Leucocyte and Natural Killer Cell Functions in Mature and Premature Newborns
Rabatić, S.; Benić, L.; Mažuran, R.; Dekaris, D. 252

Impaired Interferon-Alpha Enhancement of Neonatal Monocyte Phagocytosis
El-Mohandes, A.E.; Brudno, D.S.; Ahronovich, M.D. 260

N-Terminal Propeptide of Type-III Procollagen Concentrations in the Cord Blood: An Index of Newborn Maturity
Yunoki, H.; Yagi, H.; Nagashima, K.; Noji, T.; Miyake, H.; Kuroume, T. 264

Prostacyclin-Like Activity in Umbilical Arteries Is Dose-Dependently Reduced by Maternal Smoking and Related to Nicotine Levels
Ahlsten, G.; Ewald, U.; Tuvemo, T. 271

Development of Bile Secretory Function in the Neonatal Guinea Pig
Tuchweber, B.; Ducruet, N.; Perea, A.; Yousef, I.M.; Weber, A.M. 279

Nuclear 3,5,3′-Triiodothyronine Receptors in Skeletal Muscle of Normal and Small-for-Gestational Age Newborn Piglets
Dauncey, M.J.; Geers, R. 291

Respiratory Response to Adenosine in Newborn Lambs Is Modified by Hypoxemia and by Heat Stress
Norsted, T.; Jonzon, A.; Sedin, G. 296

No. 6 **Original Papers**

Glutathione Peroxidase and Selenium Levels in the Preterm Infant
Tubman, T.R.J.; Halliday, H.L.; McMaster, D. 305

Key Enzymes of Purine Degradation and Reutilization in Human Fetal Liver and Brain
Vettenranta, K.; Raivio, K.O. 311

Effect of Maternal Vitamin-A Administration on Fetal Lung Vitamin-A Stores in the Perinatal Rat
Shenai, J.P.; Chytil, F. 318

α-Fetoprotein in Congenital Hypothyroidism
Mengreli, C.; Sarafidou, E.; Petmezaki, S.; Pantelakis, S. 326

Intestinal Permeability to Intact Lactose in Newborns and Adults
Bezerra, J.A.; Thompson, S.H.; Morse, M.; Koldovský, O.; Udall, J.N., Jr. 334

Levels of Insulin-Like Growth Factor I in Full-and Preterm Human Milk in Comparison to Levels in Cow's Milk and in Milk Formulas
Nagashima, K.; Itoh, K.; Kuroume, T. 343

The Uptake of Amino Acids and Oxygen across the Rabbit Uterus in Normal and Postterm Pregnancies
Li, H.-Q.; Gilbert, M.; Teng, C.; Jones, R.O.; Murray, R.D.; Battaglia, F.C 347

Author Index 355
Subject Index 357

Suppl. 1 **'Metabolic Problems of the Newborn'**
Proceedings of the IVth International Symposium on Neuronatology: An Update
Venice, March 29–31, 1990